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An
Inaugural Essay
on
Hydrothorax,
submitted
to the Provost and Medical Faculty
of the University of Pennsylvania,
for the degree of M. D.
by
Francis Lightfoot Lee
of
Virginia
1822

admitted March 28th 1822

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Hydrothorax or Dropsy of the Chest.

A preternatural collection of a serous fluid into any cavity of the body has been termed a dropsy.

The disease however presenting different appearances and requiring different modes of treatment as it occurs in one or another part, nosologists have added to the general term dropsy, others denoting each particular modification of it. Thus we have Anasarca or general dropsy - Ascites when the collection takes place within the cavity of the Abdomen, and Hydrothorax, or as it is sometimes called Hydrops Pectoris, when within that of the Chest.

To the last form of the disease my observations in the following essay are chiefly directed. I say chiefly, for I am unavoidably led to make many remarks

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particularly when treating of its Pathology, equally applicable to every form of the disease.

The term Hydrothorax is derived from two Greek words signifying water and chest.

Causes. The remote causes of Dropsy of the Chest are generally such diseases as by their long continuance or severity produce chronic or acute affections of some of the great viscera of the body, such as Intermitting fever, Jaundice, Asthma, Pulmonary Consumption, Pripneumonia &c. Gout, and long habitual indulgence in intemperance by weakening the powers of the Stomach, and through it the system, generally produce that condition of it, which Authors have termed the Cachectic, and which has been considered one of the most prominent causes of this disease.

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perhaps been the subject of more controversy than the proximate cause of dropsy. To any one acquainted with Physiology or Anatomy the fact is notorious that when the body is in a perfectly natural and healthy state, the exhalent vessels are continually pouring out a serous or watery fluid into every cavity of it, which is as quickly taken up and removed by the absorbents. This being the fact, and no one will deny that it is not, we must consequently look to a loss of balance between the two as a cause of Dropsy. This perhaps is all that is necessary to be known as all agree that it is to the absorbents we are to direct our attention and remedies. Physiologists have however gone farther, and have endeavoured to ascertain which of the two were in fault, some contending that it is a loss of action in the absorbents, others an increase of it in the

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Exhalents. Not considering myself capable of offering an opinion on this subject I shall only state that the latter, I believe, is the one generally recieved by the Practitioners of our country. Almost all agreeing, as I have already mentioned, that our attention and remedies are to be directed to the Absorbents, we might naturally conclude that aided in their views by the numerous and diversifyed articles which the Mat. Med. affords calculated for the purpose, the Practitioners of Medecine might have encountered Dropsy of the chest under equal advantages with other diseases. This however is far from being the case, and is to be attributed in a great measure to the want of attention to the state of the system with which it may be associated. Whilst the English writers almost without an exception have considered Dropsy to be dependant on a cachectic or antiflogistic dia-

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these view of our own country on the contrary have almost as universally held it to be a disease of high action or phlogistic character. It is sometimes the case the truth rather lies in medio for although it is unquestionably often, and perhaps most frequently associated with the latter condition, yet it may sometimes occur in an opposite one: What else indeed than that can we look for an explanation of the curious fact, mentioned particularly by Cullen that bitter medicines which sometimes act most beneficially, do not at all answer in other instances the end wished for. The Humoral Pathologists were aware of this circumstance, and endeavoured to explain the condition of the habit by particular names answering to that condition. Hence the terms dyscrasia, cachexy &c. These however in consequence of the fanciful The-

ous with which they were connected have fallen into disuse. Dr. Kendall a physician of great eminence who was within one of the last who visited on Tropen has directed our attention to the state of the urine as a test. From a number of experiments he was led to the following conclusions. That when it is coagulable like the serum of blood by heat or nitric acid it indicates increased action, when differing from that of health in nothing but the smallness of quantity discharged it on the contrary indicates enfeebled action. That denotes diseased viscera is high colored, and scanty, depositing a copious red sediment but not at all affected by heat or nitric acid. That the state of internal action may influence that if the urine is highly potash, and from the respectability of the author we may safely conclude it is worthy of trial.

symptoms [illegible]

[illegible] to a [illegible] of [illegible] [illegible] [illegible] of [illegible] [illegible] of the disease. It usually [illegible] with some [illegible] of pain or uneasiness about the epigastrium, [illegible] by a difficulty of breathing on any exertion such as walking up an [illegible] or stairs. I [illegible] cough is not an [illegible] [illegible] on the side of the disease. The symptoms become [illegible], in some instances [illegible] other [illegible] [illegible] [illegible], [illegible] [illegible] [illegible] of the lung, or [illegible] of the [illegible]. The Patient is sometimes unable to place himself in a recumbent posture, and if he should be lying upon one side may be more comfortable than on the other, [illegible] on the back than either, owing to the diseased [illegible] being [illegible] in one or other

[illegible] of the [illegible] in both — the [illegible] [illegible] [illegible]

erect posture. Dr Cullen remarked that he had never seen this symptom attending any other affection of the chest, and that when I was asked to other particularly the difficulty of breathing and edematous feet he had no doubt in concluding the existence of water in the chest.

Diagnosis. There are several diseases with which dropsy of the chest may be confounded, such as angina pectoris, asthma, organic derangement of the heart and large blood-vessels and some affections of the stomach. From these however it may be distinguished by a careful examination into the History of the case. Few symptoms however have been mentioned as Pathognomonic. By Corvisart we are told that if when the patient is erect we place our hand on the side of the thorax and strike on the opposite side with the other a fluctuation may be perceived. Bichat was also informed as

and if [illegible] the patient in a recumbent
posture and bearing upon the inspiration.
great uneasiness or pain will be produced.
Prognosis. The prognosis in this disease
is apparent and unfavorable. So much so
indeed that although the elders whom appear
have been well acquainted with the his-
tory and appearances on dissection still
have left us very little to hope or expect as
regards the cure. Even Cullen himself seems to have been
of this opinion as he states that it seldom admits of
a cure or even of alleviation from remedies. Yet I am
aware, that I have high authority for stating
that Hydrothorax under favourable circumstan-
ces and treated in the manner I shall hereafter
endeavour to lay down is as **curable as** the other
forms of Dropsy particularly ascites.
Treatment. The first object which generally
engages the attention in the commencement of the treat-
ment of Hydrothorax is the reduction of inflamma-tory

[illegible] more of tonics which is considered to be indeed
[illegible] to the pain and pain in the breast and
[illegible] nervous. Cupping is an excellent remedy in the
chest, and is often proposed to the breast by some.
It should be always applied to the back. Together
with these remedies a blister should be applied to
the chest and kept there for some time. Still by
these means a cure cannot be accomplished the next re-
medies to be resorted to are the tonics, and of these the
[illegible] of bark in the commencement is to be
[illegible]. The question as to combustion has also
been very considerable in this place. Some difference
of opinion however has existed as to the mode in
which it should be exhibited. Dr. Gallen supposed if
it was given in such doses as to effect the stomach
[illegible] the [illegible] inspection were destroyed. Some
on the contrary mentained that it should be given
so as to actually operate on the stomach. In support
[illegible] they do not know that [illegible] [illegible]
[illegible] than quote the words of Dr. Chapman relat-

[illegible] to it. I [illegible] the part in question is not [illegible] [illegible] [illegible]

[illegible] cure the disease has been brought [illegible] by intemperance.

No article of the Materia medica has, we hope, had greater praise bestowed upon it than the Digitalis as a remedy in every form of Dropsy. Dr Hamilton who has written a treatise on it has however gone farther in its praises in the particular cases of the diseases under consideration than any other writer with whom I am acquainted. [illegible] that it is adapted to all cases of this nature in such cases I never have seen, however extolled, or denounced, that in not strictly referable to it; indeed it has in most instances, although [illegible] it is so invariably beyond what could have been hoped from any medicine whatever, to most disappointing to certainty of effect. Dropsy indeed would it be to numerous and the sufferers of medicine thus easily subdue

a disease long confined himself and now
[illegible] of the most powerful we have to
contend with. That it is sometimes useful
should not the fact of a couple to deny,
though I have reason to believe that it should
never be employed to the exclusion of the
[illegible] and tartarus. The Digitalis is now
generally administered in three different
forms substance, tincture and infusion. The
dose of the first to commence with is about
one grain, of the second five or six drops of
the preparation called the saturated tincture
is used, of that made according to the Lon-
don Pharmacopoeia double the quantity is ne-
cessary, and of the last a tablespoonful
These doses should be daily increased closely
watching their effects if during their use a
membranous, tensive pain of the head,
often over one eye, they should be imme-
diately withheld. Dr. Withering supposed that

where there was much strength or action of the system remaining it was unfavourable to its use in which opinion he is generally followed. Emetics from their known efficacy in other affections of the chest, and their great power of promoting absorption might a priori be supposed useful in Hydrothorax. Being however generally considered a dangerous remedy they are seldom resorted to.

It has been made a question whether a [illegible] [illegible] [illegible] [illegible] [illegible] when [illegible] [illegible] thirst which accompanies the disease makes him very frequently crave. It is acknowledged by all Physiologists that when water is taken into the system it being in a perfectly healthy state that it is thrown out again by some one of the emunctories. Some however have supposed that it has in some instances instead of being thus eliminated [illegible] fallen into one of the cavities of the

body and thus produced dropsy itself. Dr. Cullen on this subject remarks, that he has found an entire abstinence from drinks by throwing the secretory vessels of the kidnies into a state of contraction farther to diminish the quantity of urine discharged, and by that means increasing the effusion. He therefore lays it down as a rule, in which he is now generally followed, that when the quantity of water discharged is equal or nearly so to the quantity of water taken in, it will be advantageous to administer it freely. In support of his opinion we have the evidence of Sir G. Baker and Dr. Milman who have declared they have cured dropsy by this means. As to the kind of drinks water alone or combined with some of the vegetable acids is to be prefered. The next object is to restore tone to the system, and thus prevent a return of the disease. Bark and the chalybeates are

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usually selected for this purpose; though Dr. Blackall thinks there may be cases in which the bitter vegetable tonics will answer better. One thing however should be observed never to commence their use too soon least they should reproduce the disease. If during the tonic course of treatment the disease should have a tendency to return it would be proper to commence again with the use of diuretics, and here the potash in combination with some of the bitter tonics as recommended by Dr. R. Pearson are to be selected.

Diet. With regard to diet during the convalescence it should be nourishing, but not stimulating or heating, and the patient should never be allowed to take much into his stomach at a time.

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